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STABILIZING THE NOMENCLATURE OF FABRICIAN NAMES OF NORTH AMERICAN HAIRSTREAKS (LYCAENIDAE: THECLINAE: EUMAEINI)

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ABSTRACT. Four actions are taken to preserve nomenclatural stability of Nearctic hairstreak names proposed by Fabricius. Following the provisions of ICZN Article 23.9.1, *Thecla liparops* Le Conte, 1833 is made a **nomen protectum** and *Hesperia anacreon* Fabricius, 1793 is made a **nomen oblitum**. *Thecla m-album* Boisduval & Le Conte, 1833 is made a **nomen protectum** and *Hesperia curipides* Fabricius, 1793 is made a **nomen oblitum**. *Lycus niphon* Hübner, [1819] is made a **nomen protectum** and *Hesperia plantus* Fabricius, 1793 is made a **nomen oblitum**. The name *Hesperia cecrops* Fabricius, 1793 cannot be determined definitively from the original description and might apply to different biological species. We designate a **neotype** for *Hesperia cecrops* Fabricius, 1793 following the provisions of ICZN Article 75.3, with the new type locality of Savannah, Georgia, USA. New information on the identity of *Papilio mars* Fabricius, 1776 and *Hesperia titus* Fabricius, 1793 is consistent with current usage. The identity of *Hesperia columella* Fabricius, 1793 was corrected previously, and *Papilio ixion* Fabricius, 1775 remains a **nomen dubium**.

Additional key words: ICZN Article 23.9.1, Fabricius, Icones, Jones, Nearctic, Taxonomic Stability.

Between 1775 and 1807, Johann Christian Fabricius named 1,648 lepidopteran species (Zimsen 1964), including about 35 that belong to—or have been thought to belong to—the Eumaeini (Lycaenidae: Theclinae) (Robbins & Lamas in prep.). The exact number is unclear because the identity of many Fabrician lycaenid species has been uncertain (e.g., Druce 1907: 568, Draudt 1919–1920: 825). Few types are extant (Zimsen 1964). Verbal descriptions were rarely sufficiently detailed to identify species. Descriptions were not accompanied by published illustrations, and some names that were illustrated later in unpublished manuscripts were not necessarily the same species that Fabricius had originally described (Robbins & Lamas in prep.). Finally, type localities were usually inaccurate.

In one of his later works Fabricius (1793) sometimes referenced illustrations in an unpublished book by William Jones [?–1818] called the “Icones” (Lamas 1979 and included references). This book was never published, and the manuscript now belongs to the Hope Department of Entomology, University of Oxford, England (Smith 1986). Illustrations from the manuscript were used to identify some Neotropical Eumaeini (Robbins 2004), but the application of Fabrician names that belong to the Nearctic Eumaeini has not been reviewed. As detailed in this paper, the stability of four North American names that have been used widely and consistently for more than a century is jeopardized. The primary purpose of this paper is to

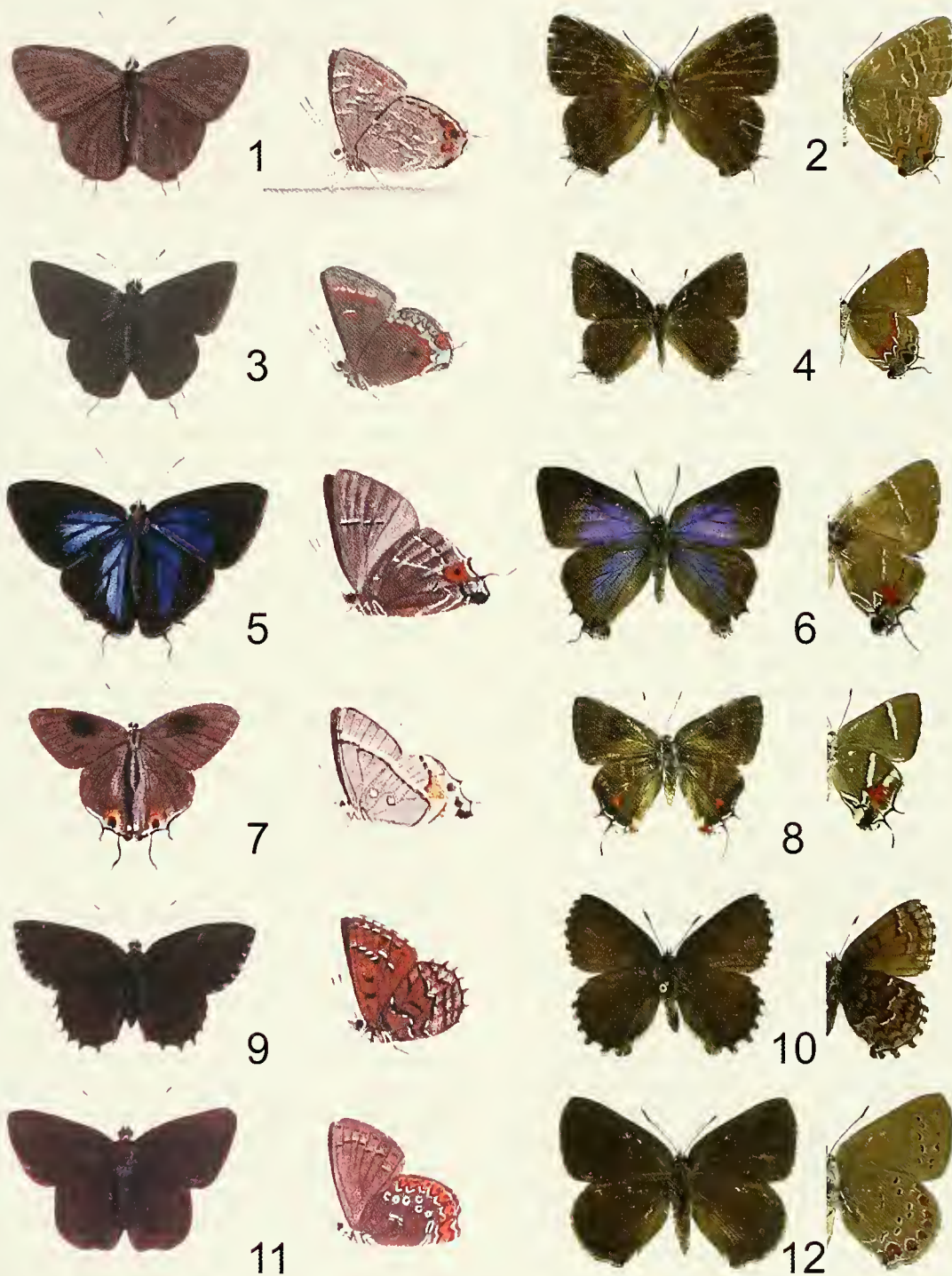
review and stabilize the nomenclature for those Fabrician names that refer to the Nearctic Eumaeini. The name of one species that occurs in southern Texas (*Hesperia herodotus* Fabricius) will be treated elsewhere (Robbins & Lamas in prep.) because it is primarily a Neotropical species (Robbins & Duarte 2005).

MATERIALS AND METHODS

Fabrician names that belong to the Nearctic Eumaeini were determined by a search of the literature and by examining a set of photographic color slides of Jones' Icones made by the Hope Department of Entomology at Oxford University. These names are listed below alphabetically, and historical use of each is outlined. We figure those names that were illustrated in Jones and note whether the Jones illustration was referenced in the original description. Although each of these illustrations (Figs. 1, 3, 5, 7, 9, 11) was cited by Fabricius (1793) as being in Jones' Volume 6, they are currently listed in Volume 5 in the Hope Department of Entomology Library title card with a note that they are the same as Volume 6 in Fabricius. Plate and figure numbers are identical in both sources and are cited in the legend for figures 1–12.

Identification of species illustrated by Jones was based primarily upon wing pattern characters. Wing venation, especially the radial veins, usually cannot be seen clearly in Jones' illustrations.

Under Article 23.9.1 of the International Code of



Figs. 1-8. Upperside (left) and underside. 1. *Hesperia anacreon* in Jones' Icones (plate 5, fig. 4). 2. *Satyrium liparops*, female, Atlanta, Georgia. 3. *Hesperia cecrops* in Jones' Icones (plate 21, fig. 2). 4. *Calycopis cecrops*, male neotype, see text for full data. 5. *Hesperia curipides* in Jones' Icones (plate 13, fig. 4). 6. *Parrhasius m-album*, female, Savannah, Georgia. 7. *Papilio mars* in Jones' Icones (plate 18, fig. 2). 8. *Strymon acis*, female, Big Pine Key, Florida. 9. *Hesperia plautus* in Jones' Icones (plate 44, fig. 1). 10. *Callophrys niphon*, male, Alexandria, Virginia. 11. *Hesperia titus* in Jones' Icones (plate 44, fig. 2). 12. *Satyrium titus*, male, Alexandria, Virginia.

Zoological Nomenclature (ICZN 1999), if an older name, such as three of those identified in this paper, was not applied to a species after 1899 and the younger name has been used by at least 10 different authors in 25 works over the past 50 years (but not in less than a 10 year span), then the younger name is to be protected. The references required by this article are cited in the Appendix. Finally, we use ICZN Article 75.3 to propose a neotype to preserve current usage of a name that cannot be identified with certainty from the original description.

RESULTS

1. *Hesperia anacreon* Fabricius, 1793

The illustration in Jones of *Hesperia anacreon*, which was referenced in the original description of Fabricius, is the same species that is currently called *Satyrium liparops* (Clench 1961, Scott 1986) (Figs. 1, 2). The pattern of off-set white lines on the ventral wings of the Jones illustration can refer to no other species in North America (Clench 1961) or elsewhere (Robbins, unpubl.).

Comstock and Huntington (1959: 70) wrote "Neither Butler nor Druce recognized *anacreon*, but it might be determined from Jones' drawings." This name was not recognized in Draudt (1919–1920) or D'Abrera (1993, 1995). There are no known extant types of *H. anacreon* (Druce 1907, Zimsen 1964), and it has not been used as a valid taxon since Westwood (1852). In the Appendix, more than 25 works in which the name *S. liparops* (Le Conte) has been used by more than 10 authors are listed, for which reason this name is now protected.

The names in the synonymy below are clinal geographical forms, but accurately placing the geographical origin of the illustrated specimen of *H. anacreon* F. is likely to be somewhat arbitrary. The synonymy is as follows:

Satyrium liparops (Le Conte, 1833) (*Thecla*),
nomen protectum, type locality: Georgia, USA

Hesperia anacreon Fabricius, 1793 **nomen oblitum**
(ICZN, Art. 23.9.1) type locality: India

Thecla strigosa Harris, 1862, type locality:
Massachusetts, USA

Thecla liparops ab. *pruina* Scudder, 1889,
type locality: Massachusetts, USA

Thecla strigosa var. *liparops* Fletcher, 1903, type
locality: Manitoba, Canada preoccupied by *Thecla*
liparops Le Conte, 1833

Strymon strigosus fletcheri Michener &
dos Passos, 1942, replacement name; type locality:
Manitoba, Canada

Strymon strigosus aliparops Michener &
dos Passos, 1942; type locality: Colorado, USA

Satyrium liparops floridensis Gatrell, 2001, type
locality: Florida, USA

2. *Hesperia cecrops* Fabricius, 1793

Although *Hesperia cecrops* was described from "Indiis", it has been treated as a New World species for more than 125 years, usually as the North American endemic that is currently called *Calyeopsis cecrops* (Butler 1870, Scudder 1876, Draudt 1919–1920, Holland 1931, Klots 1951, Clench 1961, Field 1967, Howe 1975, Scott 1986, Opler & Malikul 1992, D'Abrera 1993, Glassberg 1999, Fig. 4).

Despite its consistent usage, identification of *Hesperia cecrops* is unclear. Identification of the Jones illustration (Fig. 3)—referenced in the original description of Fabricius—might conceivably refer to one of several species of *Calyeopsis*. The prominent red basal edging of the postmedian line is consistent with the wing pattern of *C. cecrops* (Figs. 3, 4) as well as with some other *Calyeopsis* species (Field 1967). The dorsal brown color lacking virtually any blue in the illustration is shared by many "summer form" males of *C. cecrops* (Clench 1961, Field 1967, Scott 1986) (Figs. 3, 4), but occurs occasionally in *C. isobeon* (sometimes referred to by its junior synonym, *C. quintana* [K. Johnson, 1991]). The single ventral hindwing orange-red cubital spot with a small black "pupil" at the basal edge does not exactly match the cubital spot of any *Calyeopsis*, including *C. cecrops* (Figs. 3, 4). Finally, no publication of which we are aware has ever mentioned a type specimen nor is an extant type known (Zimsen 1964).

We designate a male neotype for *Hesperia cecrops* Fabricius, 1793 following the qualifying conditions of ICZN Article 75.3. The reason for designating the neotype is to conserve usage of this name as it has been employed almost exclusively for more than a century (Scudder 1876, Draudt 1919–1920, Holland 1931, Klots 1951, Clench 1961, Field 1967, Howe 1975, Scott 1986, Opler & Malikul 1992, D'Abrera 1993, Glassberg 1999). *Hesperia cecrops* is differentiated from its close relatives by the characters given in Field (1967). The neotype male (Fig. 4) has one white label [Savannah, GEORGIA/ Chatham County/ 30 May '64/ Coll by S.S. Nicolay] with all lines printed except for the handwritten date. We have added a printed red neotype label [NEOTYPE/ *Hesperia cecrops* Fabricius/ Robbins & Lamas, 2006]. As noted, no extant type is known (Zimsen 1964). The neotype wing pattern is similar to the figure in Jones (Figs. 3, 4) and is consistent with usage of this name. The original type locality was erroneous, and the new type locality for

Hesperia cecrops Fabricius, 1793 is Savannah, Georgia, USA in accordance with ICZN Article 76.3. The neotype is deposited in the National Museum of Natural History, Smithsonian Institution, Washington, DC, USA.

3. *Hesperia columella* Fabricius, 1793

Jones' *Icones* was not referenced in the original description of *H. columella* nor did Jones illustrate it. However, Robbins examined the two extant syntypes of *H. columella* in Copenhagen (Zimsen 1964, one had been at Kiel) and illustrated one of them (Robbins & Nicolay 1999). Although this name had been applied to the species now called *Strymon istapa* (Reakirt) (Riley 1975, Smith et al. 1994), which occurs from the southern United States to Brazil and Peru, it actually refers to a species endemic to the Lesser Antilles (Robbins & Nicolay 1999).

4. *Hesperia euripides* Fabricius, 1793

The illustration in Jones of *Hesperia euripides*, which was referenced in the original description of Fabricius, is the same species that is currently called *Parrhasius m-album* (Boisduval & Le Conte) (Nicolay 1979) (Figs. 5, 6). *Parrhasius m-album* differs from *P. moctezuma* Clench, *P. urraca* Nicolay, and *P. selika* (Hewitson) (= *P. appula* [Hewitson], Robbins 2004) by lacking both ventral forewing submarginal lines (one may be vestigial) (Nicolay 1979) and lacking virtually all red on the ventral hindwing anal lobe. The illustration of *H. euripides* has both characters of *P. m-album* (Figs. 5, 6). There are no known extant types of *H. euripides* (Zimsen 1964), and it was last "used" as a valid species by Butler (1870) and Kirby (1871). It was not mentioned by Draudt (1919–1920) or D'Abrera (1993, 1995). In the Appendix, more than 25 works in which the name *P. m-album* (Boisduval & Le Conte) has been used by more than 10 authors are listed. All conditions of Article 23.9.1 are met, for which reason prevailing usage is to be maintained.

Parrhasius m-album (Boisduval & Le Conte, 1833)(*Thecla*), **nomen protectum**; type locality: Georgia, USA

Hesperia euripides Fabricius, 1793 **nomen oblitum** (ICZN, Art. 23.9.1); type locality: Indiis

Thecla psyche Boisduval & Le Conte, 1833, type locality: Georgia, USA

5. *Papilio ixion* Fabricius, 1775

Papilio ixion was described from "in India," but no figure of this species was referenced nor is a type specimen known to be extant (Zimsen 1964). This

name has been treated as a junior synonym of the species now called *Strymon acis* (Drury) (Fabricius 1793, Godart 1824, Westwood 1852) and as a senior synonym of the species now called *Parrhasius m-album* (Butler 1870, Kirby 1871), but reasons have not been given for either synonymy. Comstock and Huntington (1961: 240) wrote "We cannot identify *ixion*." Robbins (2004) treated it as a *nomen dubium*. Without substantive new information, continuing *nomen dubium* status preserves nomenclatural stability.

6. *Papilio mars* Fabricius, 1776

Fabricius (1793) synonymized this name from "America meridionali" with *Papilio ixion* F. and *Papilio acis* Drury, 1773 (identification of *acis* from the original illustration is definitive even though the type locality of "New York" is incorrect). The latter synonymy has been used ever since although no types are known to be extant (Zimsen 1964). Jones illustrated *P. mars*, which is the species now called *Strymon acis* (Drury) (Figs. 7, 8). This information is consistent with current usage, and identification of the name is stable.

7. *Hesperia plantus* Fabricius, 1793

The illustration in Jones of *Hesperia plantus*, which was referenced in the original description of Fabricius, is the same species that is currently called *Callophrys (Incisalia) niphon* (Clench 1961, Scott 1986) (Figs. 9, 10). Its ventral forewing possesses two transverse bars in the discal cell and its hindwing costa is straight, which differentiates it from *C. eryphon* (Boisduval) and *C. lanoraieensis* (Sheppard) (Clench 1961). There are no known extant types of *H. plantus* (Zimsen 1964).

Kirby (1879) listed *Thecla niphon* (Hübner) as a synonym of *Thecla plantus* (Fabricius), but this action was apparently overlooked. Comstock and Huntington (1962: 116) wrote "Scudder places *plantus* in the synonymy of *niphon* Hübner based on Abbot's unpublished drawing in the British Museum. He credited the name *plantus* to Abbot and not to Fabricius. Fabricius gave a reference to Jones' figure '6, tab. 44, fig. 1.' His description reads like *niphon* Hübner. The date of *plantus* is 1793; the date of *niphon* is 1823. This should be investigated for possible synonymy."

Because Scudder incorrectly attributed *plantus* to John Abbot, *plantus* Scudder is a *nomen nudum*. The name *plantus* F. has not been used as a valid taxon since 1879. In the Appendix, more than 25 works in which the name *C. (I.) niphon* (Hübner, [1819]) has been used by more than 10 authors are listed. All conditions of Article 23.9.1 are met. Despite the synonymy in Kirby (1879) and the discussion in Comstock and Huntington

(1962), the name *Lycus niphon* Hübner is protected.

Callophrys (Incisalia) niphon (Hübner, [1819])
(*Lycus*), **nomen protectum**, type locality: [Georgia],
USA

Hesperia plautus Fabricius, 1793 **nomen oblitum**
(ICZN, Art. 23.9.1); type locality: Indiis

Papilio plautus Scudder, 1876 **nomen nudum**, type
locality: Georgia, USA

Incisalia niphon var. *clarki* T.N. Freeman, 1938, type
locality: Ontario, Canada

8. *Hesperia titus* Fabricius, 1793

The identification of this species has been clear since it was described from "Anglia." The original description references an illustration in Jones (Fig. 11) that is consistent with the current identification of *Satyrrium titus* (Fig. 12) (Clench 1961, Scott 1986). No extant types are known (Zimsen 1964), but Butler (1870) suggested that a specimen in the Natural History Museum (London) might be a type from the Drury collection. It is also consistent with the current identification of *Satyrrium titus*. The name *titus* F. was involved in a ruling on generic names, and was placed on the Official List of Specific Names in Zoology as name #1605 (ICZN 1959).

DISCUSSION

The nomenclature of North American Eumaeni has been markedly stabilized in the past few years. Application was made to, and granted by, the International Commission on Zoological Nomenclature to protect the name *Ministrymon azia* (Hewitson) from an older name (Robbins & Lamas 2004, ICZN 2006). The nomenclatural confusion between *Strymon yojoa* (Reakirt) and *S. daraba* (Hewitson) has been untangled so that the former name still applies to the species that ranges into the United States (Robbins & Lamas 2002). The taxonomic confusion between *Strymon columella* (Fabricius) and *S. istapa* (Reakirt) has been straightened out so that the former name no longer applies to the North American fauna. Three widely used names, *P. m-album*, *C. (I.) niphon*, and *S. liparops*, have now been protected from older Fabrician names that have not been used in over a century. Finally, a neotype for *Hesperia cecrops* Fabricius stabilizes this name as it has been used consistently for over a century.

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tively improved the manuscript. We thank John Calhoun for sending us a picture of the possible type of *Hesperia titus* in the Natural History Museum.

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APPENDIX

Twenty-six references in the past 50 years by 42 authors in which the names *Thecla liparops* Le Conte, 1833, *Thecla m-album* Boisduval & Le Conte, 1833, and *Lycus niphon* Hübner, [1819] have been used. ° Three additional references using *Thecla liparops* Le Conte, 1833 and *Lycus niphon* Hübner, [1819]. °° Three additional references using *Thecla m-album* Boisduval & Le Conte, 1833.

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